

Claims

1. A device for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the superstructure (03) and are folded at the former (08), into individual products, and at least one guide rail (09), on which a holding element (51, 19) to which a leading edge (54) of at least one web (01) of material can be fastened is displaceably guided through the superstructure (03) along a route of this web (01) of material, characterized in that at least one guide rail (09) is conducted along the former (08).

2. A device for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the superstructure (03) and are folded at the former (08), into individual products, and at least one guide rail (09), on which a holding element (51, 19) to which a leading edge (54) of at least one web (01) of material can be fastened is displaceably guided through the superstructure (03) along a route of this web (01) of material, characterized in that the guide rail (09) is arranged to extend past the transverse cutting device (24).

3. A device for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the superstructure (03) and are folded at the former (08), into individual products, and at least one guide rail (09), on which a holding element (51, 19) to which a leading edge (54) of at least one web (01) of material can be fastened is displaceably guided through the superstructure (03) along a route of this web (01) of material, characterized in that a plurality of guide elements (09, 12, 13, 32, 33) is arranged, that these guide elements (09, 12, 13, 32, 33) join the guide rail (09) upstream of the transverse cutting device (24) and downstream of at least one former (08).

4. The device in accordance with claims 1, 2 or 3, characterized in that the guide rail (09) is twisted at the level of the former (08).

5. The device in accordance with claims 1, 2 or 3, characterized in that the former (08) can be displaced in the cutting direction of the transverse cutting device (24).

6. The device in accordance with claims 1, 2 or 3, characterized in that upstream of the former (08) the guide rail (09) has a section (43) which is extendible in the running direction of the web (01) of material.

7. The device in accordance with claims 1, 2 or 3, characterized in that the guide rail (09) has a articulated

section (44, 46) between the inlet of the former (08) and the transverse cutting device (24).

8. The device in accordance with claim 7, characterized in that the articulated (44, 46) section is constituted by one or several cuts (47) in the guide rail (09).

9. The device in accordance with claims 1, 2 or 3, characterized in that a distance (X) of the guide rail (09) from the paper web (01) is substantially constant from a former inlet roller (18) over the former (08) up to the tip of the latter.

10. The device in accordance with claim 8, characterized in that the guide rail (09) has a groove (23) with a bottom (49) and two lateral walls (48), in which the holding element (19, 51) is guided, and that the cuts (47) extend through at least one of the lateral walls (48).

11. The device in accordance with claims 1 or 2, characterized in that the guide rail (09) is arranged to extend past the transverse cutting device (24).

12. The device in accordance with claims 2 or 11, characterized in that the transverse cutting device (24) has a cutter cylinder (26).

13. The device in accordance with claims 2 or 11, characterized in that the transverse cutting device (24) has a cylinder (27) with a holding system.

14. The device in accordance with claims 2, 11 or 13, characterized in that the transverse cutting device (24) has a cylinder (27) embodied as a folding blade cylinder (27).

15. The device in accordance with claims 2 or 11, characterized in that the guide rail (09) is arranged to extend through a gap formed by a cutter cylinder (26) and a folding blade cylinder (27).

16. The device in accordance with one of claims 1 to 14, characterized in that a clipping device (36) for cutting off white paper waste at the front of the webs (01) of material is provided in front of the transverse cutting device (24).

17. The device in accordance with claim 16, characterized in that an inlet of the transverse cutting device (24) is arranged through the clipping device (36) in the extension of the direction of passage of the webs (01) of material.

18. The device in accordance with claims 2 or 11, characterized in that the inlet of the transverse cutting device (24) is arranged vertically underneath the clipping device (36).

19. The device in accordance with claims 16, 17 or 18, characterized in that the guide rail (09) has a curved section (37) between the clipping device (36) and the inlet of the transverse cutting device (24) and extends past the inlet of the transverse cutting device (24).

20. The device in accordance with one of the preceding claims, characterized in that a storage device (41) for receiving holding elements (19, 51) is arranged in the extension of the guide rail (09) on the far side of the former (08).

21. The device in accordance with claim 20, characterized in that the storage device (41) is constituted by a spiral-shaped or helix-shaped rail element.

22. The device in accordance with claim 20 or 21, characterized in that a separating device (17, 30, 39) for separating the holding elements (19, 21) from their respective webs (01) of material is located upstream of the storage device (41).

23. The device in accordance with claims 19 and 22, characterized in that the separating device (39) is arranged on the guide rail (09) between the curved section (37) and the storage device (41).

24. The device in accordance with one of the preceding claims, characterized in that the guide rail (09) extends continuously from a roll changer of a printing group located upstream of the folding apparatus into the folding apparatus.

25. The device in accordance with one of the preceding claims, characterized in that the device has a plurality of routes, on which respectively one continuous web can be conducted through the superstructure (03) and to the transverse cutting device (24).

26. The device in accordance with claims 25, characterized in that several rail elements (09, 12, 13, 32, 33), which extend along each of these routes, join the guide rail (09) upstream of the transverse cutting device (24).

27. The device in accordance with claims 26, characterized in that several rail elements (12, 13, 32, 33), which extend along each of these routes, join the guide rail (09) downstream of at least one former (08).

28. The device in accordance with claims 27, characterized in that a shunt (34) is arranged at the respective junction points (29, 31) of the rail elements (12, 13, 32, 33).

29. The device in accordance with claims 25 to 28, characterized in that a glue-preparation device (16) for making locations on a continuous web of material passing the glue-preparation device (16) sticky is arranged on at least one of the several routes upstream of a junction point (29, 31).

30. The device in accordance with claims 29, characterized in that the glue-preparation device (16) is an adhesive tape dispenser or a glue dispenser.

31. The device in accordance with claims 29 or 30, characterized in that a sensor (14) for detecting a start of a web passing the glue-preparation device (16) is assigned to each glue-preparation device (16).

32. The device in accordance with claims 1, 2 or 3, characterized in that the holding element (51, 19) has a finite chain.

33. The device in accordance with claim 32, characterized in that the chain can be curved transversely in respect to the transport direction.

34. The device in accordance with claims 33, characterized in that the chain has rollers with longitudinal axes, and that in the curved state the virtual extension of the longitudinal axes intersect in a point, so that the chain has a radius of curvature (R51) of less than 1000 mm.

35. The device in accordance with claims 34, characterized in that the radius of curvature (R51) is less than 600 mm.

36. The device in accordance with claims 1, 2 or 3, characterized in that a plurality of formers (08) is arranged, and a guide rail (09) is conducted along each former (08).

37. The device in accordance with claims 36, characterized in that at least two formers (08) are arranged next to each other and that a guide rail (09) is arranged along the right side of the one former (08), and a guide rail (09) along a left side of the other former (08).

38. The device in accordance with claims 37, characterized in that guide rails (09) are only arranged at the two sides of the

formers (08) facing away from each other and not on the adjoining sides of the formers (08).

39. The device in accordance with claim 1, characterized in that at least one guide rail (09) is conducted along the side of the former (08).

40. The device in accordance with claim 1, characterized in that at least one guide rail (09) is conducted along the side of the former (08) which is inclined at an acute angle in respect to the transport direction.

41. The device in accordance with claim 24, characterized in that at least two roll changers are arranged, and a guide rail (09) extends from each roll changer to the former (08).

42. The device in accordance with claims 1, 2, 3, 39 or 40, characterized in that the guide rail (09) is arranged at a distance from the former (08).

43. The device in accordance with claim 1, characterized in that, in relation to a view from above on the former (08), at least one guide rail (09) extends approximately parallel in respect to a lateral edge of the former (08).

44. A method for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the

superstructure (03) and are folded at the former (08), into individual products, and a guide rail (09), on which a holding element (51, 19), to which a leading edge (54) of at least one web (01) of material can be fastened, is displaceably guided through the superstructure (03) along a route of this web (01) of material, having the following characteristics:

- a first web (01) of material is conducted on the guide rail (09) to a junction point (29, 31), at which one of the rail elements (12, 13, 32, 33) joins the guide rail (09),

- a second web (01) of material is conducted on the guide element (12, 13, 32, 33) to the junction point (29, 31) and fastened on the first web (01) of material, and

- the webs (01) of material fastened to each other are further conducted on the guide rail (09) and introduced into the transverse cutting device (24).

45. The method in accordance with claim 44, wherein a further web (01) of material is only conducted to the junction point (29, 31) after the holding element (19, 51) of the first web (01) of material has passed the junction point (29, 31).

46. A method for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the superstructure (03) and are folded at the former (08), into individual products, and a guide rail (09), on which a holding element (51, 19), to which a leading edge (54) of at least one web (01) of material can be fastened, is displaceably guided through

the superstructure (03) along a route of this web (01) of material, having the following characteristics:

- a first web (01) of material is conducted on the guide rail (09) to a junction point (29, 31), at which one of the rail elements (12, 13, 32, 33) joins the guide rail (09),
- after the holding element (19, 51) of the first web (01) of material has passed the junction point (29, 31), a second web of material is conducted on the rail element (12, 13, 32, 33) to the junction point (29, 31), and from there further on the guide rail (09) to the transverse cutting device (24).

47. The method in accordance with claim 46, wherein the second web of material is fastened to the first web (01) of material at the junction point (29, 31).

48. The method in accordance with one of claims 44 to 47, wherein the webs (01) of material are conducted on the guide rail (09) through the transverse cutting device (24).

49. The method in accordance with one of claims 44 to 48, characterized in that

- the webs (01) of material are conducted through a clipping device (36) located upstream of the transverse cutting device (24) and are first moved past the transverse cutting device (24) with the aid of the guide rail (09),
- after the tips (54) of all webs (01) of material have passed the clipping device (36), the latter is activated for clipping the webs (01) of material, and
- the leading edge (54) being created in the course of clipping enters the transverse cutting device (24).

50. The method in accordance with claim 49, wherein the transverse cutting device (24) is moved along in the correct phase during the draw-in.

51. The method in accordance with one of claims 44 to 50, wherein the holding elements (19, 51) of all webs (01) of material are first collected in a storage device (41) connected to the guide rail (09), and at the end of the printing process are returned in the opposite direction along the guide rail (09) into respective initial positions.

52. A method for drawing in at least one web (01) of material, and/or at least one continuous web containing several webs of material, into a folding apparatus of a printing press, wherein the printing press or the folding apparatus have at least one pair of draw-in rollers, which are disengaged in the course of drawing in the web (01) of material, wherein

- the passage of the leading edge of the web (01) of material through the pair of draw-in rollers is detected during the draw-in process,

- after the passage has been detected, and before the leading edge (34) reaches a transverse cutting device (24) of the folding apparatus, the rollers of the pair are brought into engagement and are driven in a controlled manner in such a way that a tractive force exerted by the pair of draw-in rollers approaches a desired value provided for continuous printing operations.

53. A method for drawing in at least one web (01) of material, and/or at least one continuous web containing several

webs of material, into a folding apparatus having a superstructure (03), at least one former (08), a transverse cutting device (24) for separating webs (01) of material, which are transported in the superstructure (03) and are folded at the former (08), into individual products, and a guide rail (09), on which a holding element (51, 19), to which a leading edge (54) of at least one web (01) of material can be fastened, is displaceably guided through the superstructure (03) along a route of this web (01) of material, having the following characteristics:

- in a roll changer a first web (01) of material is fastened to the holding element (51, 19),
- this first web (01) of material is transported on this holding element (51, 19) through at least one printing group, over at least one former (08) and through the transverse cutting device (24),
- the first web (01) of material is cut off this holding element (51, 19) downstream of the transverse cutting device (24).

54. The method in accordance with claim 53, characterized in that

- in another roll changer a second web (01) of material is fastened to another holding element (51, 19),
- this second web (01) of material is transported on this other holding element (51, 19) through at least one printing group, over at least one former (08) and through the transverse cutting device (24),
- the second web (01) of material is cut off this other holding element (51, 19) downstream of the transverse cutting device (24), through which the first web (01) of material had been conducted on the first holding element (51, 19).